

**UNIT - 4** **7 Hours**  
More file attributes, Simple filters

**PART – B**

**UNIT - 5** **6 Hours**  
Filters using regular expressions,

**UNIT - 6** **6 Hours**  
Essential Shell Programming

**UNIT - 7** **7 Hours**  
awk – An Advanced Filter

**UNIT - 8** **7 Hours**  
perl - The Master Manipulator

**Text Book:**

1. Sumitabha Das: UNIX – Concepts and Applications, 4<sup>th</sup> Edition, Tata McGraw Hill, 2006.  
(Chapters 1.2, 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 19)

**Reference Books:**

1. Behrouz A. Forouzan and Richard F. Gilberg: UNIX and Shell Programming, Cengage Learning, 2005.
2. M.G. Venkateshmurthy: UNIX & Shell Programming, Pearson Education, 2005.

**MICROPROCESSORS**  
**(Common to CSE & ISE)**

<b>Subject Code: 10CS45</b>	<b>I.A. Marks : 25</b>
<b>Hours/Week : 04</b>	<b>Exam Hours: 03</b>
<b>Total Hours : 52</b>	<b>Exam Marks: 100</b>

**PART A**

**UNIT – 1** **7 Hours**  
**Introduction, Microprocessor Architecture – 1:** A Historical Background, The Microprocessor-Based Personal Computer Systems.  
The Microprocessor and its Architecture: Internal Microprocessor Architecture, Real Mode Memory Addressing.

**UNIT – 2****7 Hours**

**Microprocessor Architecture – 2, Addressing Modes:** Introduction to Protected Mode Memory Addressing, Memory Paging, Flat Mode Memory Addressing Modes: Data Addressing Modes, Program Memory Addressing Modes, Stack Memory Addressing Modes

**UNIT – 3****6 Hours**

**Programming – 1:** Data Movement Instructions: MOV Revisited, PUSH/POP, Load-Effective Address, String Data Transfers, Miscellaneous Data Transfer Instructions, Segment Override Prefix, Assembler Details. Arithmetic and Logic Instructions: Addition, Subtraction and Comparison, Multiplication and Division.

**UNIT - 4****6 Hours**

**Programming – 2:** Arithmetic and Logic Instructions (continued): BCD and ASCII Arithmetic, Basic Logic Instructions, Shift and Rotate, String Comparisons.

Program Control Instructions: The Jump Group, Controlling the Flow of the Program, Procedures, Introduction to Interrupts, Machine Control and Miscellaneous Instructions.

**PART B****UNIT - 5****6 Hours**

**Programming – 3:** Combining Assembly Language with C/C++: Using Assembly Language with C/C++ for 16-Bit DOS Applications and 32-Bit Applications

Modular Programming, Using the Keyboard and Video Display, Data Conversions, Example Programs

**UNIT - 6****7 Hours**

**Hardware Specifications, Memory Interface – 1:** Pin-Outs and the Pin Functions, Clock Generator, Bus Buffering and Latching, Bus Timings, Ready and Wait State, Minimum versus Maximum Mode.

Memory Interfacing: Memory Devices

**UNIT – 7****6 Hours**

**Memory Interface – 2, I/O Interface – 1:** Memory Interfacing (continued): Address Decoding, 8088 Memory Interface, 8086 Memory Interface.

Basic I/O Interface: Introduction to I/O Interface, I/O Port Address Decoding.

**UNIT 8****7 Hours**

**I/O Interface – 2, Interrupts, and DMA:** I/O Interface (continued): The Programmable Peripheral Interface 82C55, Programmable Interval Timer 8254.

Interrupts: Basic Interrupt Processing, Hardware Interrupts: INTR and INTA/; Direct Memory Access: Basic DMA Operation and Definition.

**Text Book:**

1. Barry B Brey: The Intel Microprocessors, 8<sup>th</sup> Edition, Pearson Education, 2009.  
(Listed topics only from the Chapters 1 to 13)

**Reference Books:**

1. Douglas V. Hall: Microprocessors and Interfacing, Revised 2<sup>nd</sup> Edition, TMH, 2006.
2. K. Udaya Kumar & B.S. Umashankar : Advanced Microprocessors & IBM-PC Assembly Language Programming, TMH 2003.
3. James L. Antonakos: The Intel Microprocessor Family: Hardware and Software Principles and Applications, Cengage Learning, 2007.

**COMPUTER ORGANIZATION**  
(Common to CSE & ISE)

<b>Subject Code: 10CS46</b>	<b>I.A. Marks : 25</b>
<b>Hours/Week : 04</b>	<b>Exam Hours: 03</b>
<b>Total Hours : 52</b>	<b>Exam Marks: 100</b>

**PART – A**

**UNIT - 1** **6 Hours**

**Basic Structure of Computers:** Computer Types, Functional Units, Basic Operational Concepts, Bus Structures, Performance – Processor Clock, Basic Performance Equation, Clock Rate, Performance Measurement, Historical Perspective

**Machine Instructions and Programs:** Numbers, Arithmetic Operations and Characters, Memory Location and Addresses, Memory Operations, Instructions and Instruction Sequencing,

**UNIT - 2** **7 Hours**

**Machine Instructions and Programs *contd.*:** Addressing Modes, Assembly Language, Basic Input and Output Operations, Stacks and Queues, Subroutines, Additional Instructions, Encoding of Machine Instructions

**UNIT - 3** **6 Hours**